

## SEQUENCE LISTING

<110> Japan Tobacco, Inc.

Honjo, Tasuku

&lt;120&gt; Novel Cytidine Deaminase

<130> J1-101DP2PCT

<140>

&lt;141&gt;

<150> JP11-087192

<151> 1999-03-29

<150> JP11-178999

<151> 1999-06-24

<150> JP11-371382

<151> 1999-12-27

&lt;160&gt; 35

&lt;170&gt; PatentIn Ver. 2.1

<210> 1

<211> 2440

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (93).. (689)

<220>

<221> 5' UTR

<222> (1).. (92)

<220>

<221> 3' UTR

<222> (690).. (2440)

<400> 1

ggcacgagca gcactgaagc agccttgctt gaagcaagct tcctttggcc taagactttg 60

agggagtcaa gaaagtcacg ctggagaccg at atg gac agc ctt ctg atg aag 113

Met Asp Ser Leu Leu Met Lys

1

5

caa aag aag ttt ctt tac cat ttc aaa aat gtc cgc tgg gcc aag gga 161

Gln Lys Lys Phe Leu Tyr His Phe Lys Asn Val Arg Trp Ala Lys Gly

10

15

20

0996680-0996601

cgg cat gag acc tac ctc tgc tac gtg gtg aag agg aga gat agt gcc 209  
 Arg His Glu Thr Tyr Leu Cys Tyr Val Val Lys Arg Arg Asp Ser Ala  
 25 30 35

acc tcc tgc tca ctg gac ttc ggc cac ctt cgc aac aag tct ggc tgc 257  
 Thr Ser Cys Ser Leu Asp Phe Gly His Leu Arg Asn Lys Ser Gly Cys  
 40 45 50 55

cac gtg gaa ttg ttg ttc cta cgc tac atc tca gac tgg gac ctg gac 305  
 His Val Glu Leu Leu Phe Leu Arg Tyr Ile Ser Asp Trp Asp Leu Asp  
 60 65 70

cgg ggc cgg tgt tac cgc gtc acc tgg ttc acc tcc tgg agc ccg tgc 353  
 Pro Gly Arg Cys Tyr Arg Val Thr Trp Phe Thr Ser Trp Ser Pro Cys  
 75 80 85

tat gac tgt gcc cgg cac gtg gct gag ttt ctg aga tgg aac cct aac 401  
 Tyr Asp Cys Ala Arg His Val Ala Glu Phe Leu Arg Trp Asn Pro Asn  
 90 95 100

ctc agc ctg agg att ttc acc gcg cgc ctc tac ttc tgt gaa gac cgc 449  
 Leu Ser Leu Arg Ile Phe Thr Ala Arg Leu Tyr Phe Cys Glu Asp Arg  
 105 110 115

aag gct gag cct gag ggg ctg cgg aga ctg cac cgc gct ggg gtc cag 497

00966680-092801

gagcttgctg tgcaacatcg ccattctactg gggaacagca taacttccag actttgggtc 929

acggaggtga tgaacctcgg gattctctgg cccaacacgg tggaagctct gcaagggcgc 1709

2440

&lt;211&gt; 198

<213> Mus musculus

Met Asp Ser Leu Leu Met Lys Gln Lys Lys Phe Leu Tyr His Phe Lys

Asn Val Arg Trp Ala Lys Gly Arg His Glu Thr Tyr Leu Cys Tyr Val

Val Lys Arg Arg Asp Ser Ala Thr Ser Cys Ser Leu Asp Phe Gly His

Leu Arg Asn Lys Ser Gly Cys His Val Glu Leu Leu Phe Leu Arg Tyr

Ile Ser Asp Trp Asp Leu Asp Pro Gly Arg Cys Tyr Arg Val Thr Trp

Phe Thr Ser Trp Ser Pro Cys Tyr Asp Cys Ala Arg His Val Ala Glu

Phe Leu Arg Trp Asn Pro Asn Leu Ser Leu Arg Ile Phe Thr Ala Arg

Leu Tyr Phe Cys Glu Asp Arg Lys Ala Glu Pro Glu Gly Leu Arg Arg

Leu His Arg Ala Gly Val Gln Ile Gly Ile Met Thr Phe Lys Asp Tyr

130                      135                      140

Phe Tyr Cys Trp Asn Thr Phe Val Glu Asn Arg Glu Arg Thr Phe Lys

145

150

155

160

Ala Trp Glu Gly Leu His Glu Asn Ser Val Arg Leu Thr Arg Gln Leu

165

170

175

Arg Arg Ile Leu Leu Pro Leu Tyr Glu Val Asp Asp Leu Arg Asp Ala

180

185

190

Phe Arg Met Leu Gly Phe

195

&lt;210&gt; 3

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Artificially

synthesized primer sequence, AID138

&lt;400&gt; 3

ggaattcgcc atggacagcc ttctgatgaa

30

&lt;210&gt; 4

&lt;211&gt; 30

09965880-09965880



<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, AID161

<400> 4

gccgctcgag tcaaaatccc aacatacgaa

30

<210> 5

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, AID118

<400> 5

ggctgaggtt agggttccat ctcat

25

<210> 6

<211> 25

0996660-0996660

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, AID119

<400> 6

gagggagtca agaaagtcac gctgg

25

<210> 7

<211> 2818

<212> DNA

<213> Homo sapiens

<220>

<221> 5' UTR

<222> (1).. (79)

<220>

<221> CDS

<222> (80).. (676)

<220>

<221> 3' UTR

108260-08899660

&lt;222&gt; (677).. (2818)

&lt;400&gt; 7

agagaacccat cattaattga agtgagattt ttctggcctg agacttgcag ggaggcaaga 60

agacactctg gacaccact atg gac agc ctc ttg atg aac cgg agg aag ttt 112

Met Asp Ser Leu Leu Met Asn Arg Arg Lys Phe

1

5

10

ctt tac caa ttc aaa aat gtc cgc tgg gct aag ggt cgg cgt gag acc 160

Leu Tyr Gln Phe Lys Asn Val Arg Trp Ala Lys Gly Arg Arg Glu Thr

15

20

25

tac ctg tgc tac gta gtg aag agg cgt gac agt gct aca tcc ttt tca 208

Tyr Leu Cys Tyr Val Val Lys Arg Arg Asp Ser Ala Thr Ser Phe Ser

30

35

40

ctg gac ttt ggt tat ctt cgc aat aag aac ggc tgc cac gtg gaa ttg 256

Leu Asp Phe Gly Tyr Leu Arg Asn Lys Asn Gly Cys His Val Glu Leu

45

50

55

ctc ttc ctc cgc tac atc tcg gac tgg gac cta gac cct ggc cgc tgc 304

Leu Phe Leu Arg Tyr Ile Ser Asp Trp Asp Leu Asp Pro Gly Arg Cys

60

65

70

75

tac cgc gtc acc tgg ttc acc tcc tgg agc ccc tgc tac gac tgt gcc 352

0996660-092301

90

105

120

135

155

170

185

gac tta cga gac gca ttt cgt act ttg gga ctt tga tagcaacttc 686

Asp Leu Arg Asp Ala Phe Arg Thr Leu Gly Leu

190

195

caggaatgtc acacacgatg aaatatctct gctgaagaca gtggataaaa aacagtcctt 746

caagtcttct ctgtttttat tcttcaactc tcactttctt agagtttaca gaaaaaatat 806

ttatatacga ctctttaaaa agatctatgt cttgaaaata gagaaggaac acaggtctgg 866

ccagggacgt gctgcaattg gtgcagtttt gaatgcaaca ttgtccccta ctgggaataa 926

cagaactgca ggacctggga gcatcctaaa gtgtcaacgt ttttctatga cttttaggta 986

ggatgagagc agaaggtaga tcctaaaaag catggtgaga ggatcaaattg tttttatata 1046

aacatccttt attatttgat tcatttgagt taacagtggg gttagtata gatttttcta 1106

ttcttttccc ttgacgttta ctttcaagta acacaaactc ttccatcagg ccatgatcta 1166

taggacctcc taatgagagt atctgggtga ttgtgacccc aaaccatctc tccaaagcat 1226

taatatccaa tcatgcgctg tatgttttaa tcagcagaag catgttttta tgtttgtata 1286

aaagaagatt gttatgggtg gggatggagg tatagacat gcattgtcac cttcaagcta 1346

09966860-099601

ctttaataaa ggatcttaaa atgggcagga ggactgtgaa caagacaccc taataatggg 1406

ttgatgtctg aagtagcaaa tcttctggaa acgcaaactc ttttaaggaa gtcctaatt 1466

tagaaacacc cacaaacttc acatatcata attagcaaac aattggaagg aagttgcttg 1526

aatgttgggg agaggaaaat ctattggctc tegtgggtct ctcatctca gaaatgccaa 1586

tcaggtcaag gtttgctaca ttttgatatgt gtgtgatgct tctcccaaag gtatattaac 1646

tatataagag agttgtgaca aaacagaatg ataaagctgc gaaccgtggc acacgctcat 1706

agttctagct gcttgggagg ttgaggaggg aggatggctt gaacacaggt gttcaaggcc 1766

agcctgggca acataacaag atcctgtctc tcaaaaaaaaa aaaaaaaaaa aagaaagaga 1826

gagggccggg cgtggtggct cacgcctgta atccagcac tttgggaggc cgagccgggc 1886

ggatcacctg tggtcaggag tttagacca gectggccaa catggcaaaa ccccgctctgt 1946

actcaaatg caaaaattag ccaggcgtgg tagcaggcac ctgtaatccc agctacttgg 2006

gaggctgagg caggagaatc gcttgaaccc aggaggtgga ggttgagta agctgagatc 2066

gtgccgttgc actccagcct gggcgacaag agcaagactc tgtctcagaa aaaaaaaaaa 2126

09965430-099601

aaaagagaga gagagagaaa gagaacaata tttgggagag aaggatgggg aagcattgca 2186

aggaaattgt gctttatcca acaaaatgta aggagccaat aagggatccc tatttgtctc 2246

tttgggtgtc tatttgtccc taacaactgt ctttgacagt gagaaaaata ttcagaataa 2306

ccatatccct gtgccgttat tacctagcaa cccttgcaat gaagatgagc agatccacag 2366

gaaaacttga atgcacaact gtcttatttt aatcttattg tacataagtt tgtaaaagag 2426

ttaaaaattg ttacttcatg tattcattta tattttatat tattttgcgt ctaatgattt 2486

tttattaaca tgatttcctt ttctgatata ttgaaatgga gtctcaaagc ttcataaatt 2546

tataacttta gaaatgattc taataacaac gtatgtaatt gtaacattgc agtaatggtg 2606

ctacgaagcc atttctcttg atttttagta aacttttatg acagcaaatt tgcttctggc 2666

tcactttcaa tcagttaaat aaatgataaa taatttttga agctgtgaag ataaaatacc 2726

aaataaaaata atataaaagt gattttatatg aagttaaaat aaaaaatcag tatgatggaa 2786

taaacttgaa aaaaaaaaaa aaaaaaaaaa aa 2818

&lt;210&gt; 8

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 8

Met Asp Ser Leu Leu Met Asn Arg Arg Lys Phe Leu Tyr Gln Phe Lys

1 5 10 15

Asn Val Arg Trp Ala Lys Gly Arg Arg Glu Thr Tyr Leu Cys Tyr Val

20 25 30

Val Lys Arg Arg Asp Ser Ala Thr Ser Phe Ser Leu Asp Phe Gly Tyr

35 40 45

Leu Arg Asn Lys Asn Gly Cys His Val Glu Leu Leu Phe Leu Arg Tyr

50 55 60

Ile Ser Asp Trp Asp Leu Asp Pro Gly Arg Cys Tyr Arg Val Thr Trp

65 70 75 80

Phe Thr Ser Trp Ser Pro Cys Tyr Asp Cys Ala Arg His Val Ala Asp

85 90 95

Phe Leu Arg Gly Asn Pro Asn Leu Ser Leu Arg Ile Phe Thr Ala Arg

100 105 110

Leu Tyr Phe Cys Glu Asp Arg Lys Ala Glu Pro Glu Gly Leu Arg Arg

115 120 125

Leu His Arg Ala Gly Val Gln Ile Ala Ile Met Thr Phe Lys Asp Tyr

130 135 140

Phe Tyr Cys Trp Asn Thr Phe Val Glu Asn His Glu Arg Thr Phe Lys

145 150 155 160

T09260"0809560



Ala Trp Glu Gly Leu His Glu Asn Ser Val Arg Leu Ser Arg Gln Leu

165

170

175

Arg Arg Ile Leu Leu Pro Leu Tyr Glu Val Asp Asp Leu Arg Asp Ala

180

185

190

Phe Arg Thr Leu Gly Leu

195

&lt;210&gt; 9

&lt;211&gt; 5514

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; intron

&lt;222&gt; (1).. (1031)

&lt;220&gt;

&lt;221&gt; exon

&lt;222&gt; (1032).. (1118)

&lt;220&gt;

&lt;221&gt; intron

&lt;222&gt; (1119).. (5514)

T03260-092801

&lt;400&gt; 9

acagacgaat acatgggtcca agctagggct attgatttga aaatcatcaa ggtatagatg 60  
 gtatcaaagg cttgaggcag gaagagagca gagaccctag ctgcattgct tagcattgca 120  
 tccctagcac ctggcatagt ttccattaac agtaggcatg aagtatctac tcagtgaata 180  
 aatagaatgc atatgggcta cagtaggaga gagaaataaa atctttaata gaccaagtgc 240  
 tatgagagca caaaattaaa gtcttttatt tgaagatctt agcctgtttt ccaaattcag 300  
 tgcagccagt tagacactga tctgtctgg tgaacaagc atttttgtat tttgggggac 360  
 tgctgtgct tctgactcca aattaaggat ttttttttt tctaaaaaag atggctcag 420  
 caaaaatcac tctttgtgt aaatatctag tcttcaagca attcttgtta tgcaatcaga 480  
 aagaaaaaaa tccatggttt gggaggcaaa atttttgtgt tctaaattct atataactga 540  
 gttcatttgc ttaactgcaa agcaggagct gctagtgcct gtctgtactg aggttcagag 600  
 agactgtggg aatatggggg aattagaggc tatctgaggc tcttcaacac aataacccaa 660  
 gaagctatct aaatgctctt taaggtatct acataaatat tactattctc attgtgcttt 720  
 tattttgtgt tatcatgatt ataattgaag tgtctactgt tactgcctcc tgatctttgc 780  
 tagctatgga gcatggactg ggctttttaga gcagcagccc caaaggaacc taaacattaa 840  
 agcagagctg cctcaatgg tttaacctgt gtgactctgc ctatgacagc cccaccacc 900  
 catcttcact ggatccaaat caggagcaag gccgttgggg tacctgggtg gggatgatgct 960  
 gtcaggggag gagcccaaaa gggcaagctc aaatttgaat gtgaagggcc aatgactgt 1020  
 cagactgaga cagagaacca tcattaattg aagtgaagatt tttctggcct gagacttgca 1080  
 gggaggcaag aagacactct ggacaccact atggacaggt aaagaggcag tcttctcgtg 1140  
 ggtgattgca ctggccttcc tctcagagca aatctgagta atgagactgg tagctatccc 1200  
 tttctctcat gtaactgtct gactgataag atcagcttga tcaatatgca tatatatttt 1260  
 ttgatctgtc tctttttctt ctattcagat cttatacgt gtcagcccaa tctttctgt 1320  
 ttcagacttc tcttgatttc cctcttttct atgtggcaaa agaagtagtg cgtacaatgt 1380  
 actgattcgt cctgagattt gtaccatggt tgaactaat ttatggtaat aatattaaca 1440  
 tagcaaatct ttagagactc aaatcatgaa aaggtaatag cagtactgta ctaaaaacgg 1500

F096660.05301

tagtgctaatt tttcgtaata attttgtaaa tattcaacag taaaacaact tgaagacaca 1560  
 ctttcctagg gaggcgttac tgaaataatt tagctatagt aagaaaattt gtaatttttag 1620  
 aaatgccaag cattctaaat taattgcttg aaagtcacta tgattgtgtc cattataagg 1680  
 agacaaattc attcaagcaa gttatttaat gttaaaggcc caattgtag gcagttaatg 1740  
 gcacttttac tattaactaa tctttccatt tgttcagacg tagcttaact tacctcttag 1800  
 gtgtgaattt ggtaagggtc ctcataatgt ctttatgtgc agtttttgat aggttattgt 1860  
 catagaactt attctattcc tacatttatg attactatgg atgtatgaga ataacaccta 1920  
 atccttatac ttacctcaa ttttaactcct ttataaagaa cttacattac agaataaaga 1980  
 ttttttaaaa atatatTTTT ttgtagagac agggcttag cccagccgag gctggtctct 2040  
 aagtctggc ccaagcgatc ctctgcctg ggctcctaa agtgctggaa ttatagacat 2100  
 gagccatcac atccaatata cagaataaag atttttaatg gaggatttaa tgttcttcag 2160  
 aaaattttct tgaggtcaga caatgtcaaa tgtctcctca gtttacctg agattttgaa 2220  
 aacaagtctg agctataggt ccttggaag ggtccattgg aaatacttgt tcaaagtaaa 2280  
 atggaaagca aaggtaaaat cagcagttga aattcagaga aagacagaaa aggagaaaag 2340  
 atgaaattca acaggacaga agggaaatat attatcatta aggaggacag tatctgtaga 2400  
 gctcattagt gatggcaaaa tgacttggtc aggattattt ttaaccgct tgtttctggt 2460  
 ttgcacggct ggggatgcag ctagggttct gcctcaggga gcacagctgt ccagagcagc 2520  
 tgtcagcctg caagcctgaa acactccctc ggtaaagtcc ttcctactca ggacagaaat 2580  
 gacgagaaca gggagctgga aacaggcccc taaccagaga agggaagtaa tggatcaaca 2640  
 aagttaacta gcaggtcagg atcacgcaat tcatttcaact ctgactggtg acatgtgaca 2700  
 gaaacagtgt aggcttattg tattttcatg tagagtagga cccaaaaatc caccctaaagt 2760  
 ctttatcta tgccacatcc ttcttatcta tacttccagg acacttttcc ttccttatga 2820  
 taaggctctc tctctctcca cacacacaca cacacacaca cacacacaca cacacacaca 2880  
 cacaaacaca cccccgcca accaagggtgc atgtaaaaag atgtagattc ctctgccttt 2940  
 ctcatctaca cagcccagga gggtaagtta atataagagg gatttattgg taagagatga 3000  
 tgcttaattc gttaacaact gggcctcaaa gagagaattt cttttcttct gtacttatta 3060

agcacctatt	atgtgttag	cttatatata	caaagggtta	ttatatgcta	atatagtaat	3120
agtaatgktg	gttgggtacta	tggttaattac	cataaaaaatt	awtatccttt	taaaataaaag	3180
ctaattatta	ttggatcttt	tttagtattc	attttatgtt	ttttatgttt	ttgatttttt	3240
aaaagacaat	ctcacctgt	taccaggt	ggagtgcagt	ggtgcaatca	tagctttctg	3300
cagtcttgaa	ctcctgggct	caagcaatcc	tccctgccttg	gcctcccaa	gtgttgggat	3360
acagtcatga	gccactgcat	ctggcctagg	atccatttag	attaaaatat	gcattttaaa	3420
ttttaaaata	atatggctaa	tttttacctt	atgtaatgtg	tatactggta	ataaatctag	3480
tttgctgcct	aaagtttaaa	gtgctttcca	ataagcttca	tgtacgtgag	gggagacatt	3540
taaagtga	cagacagcca	ggtgtggtgg	ctcacgcctg	taatcccagc	actctgggag	3600
gctgaggtgg	gtggatcgct	tgagccctgg	agttcaagac	cagcctgagc	aacatggcaa	3660
aacctgttt	ctataacaaa	aattagccgg	gcatggtggc	atgtgcctgt	ggtcccagct	3720
actagggggc	tgaggcagga	gaatctttgg	agcccaggag	gtcaaggctg	cactgagcag	3780
tgcttgcgcc	actgcactcc	agcctgggtg	acaggaccag	accttgccctc	aaaaaaataa	3840
gaagaaaaat	taaaaataaa	tggaaacaac	tacaaagagc	tgttgtccta	gatgagctac	3900
ttagttaggc	tgatatTTTT	gtatttaact	tttaaagtca	gggtctgtca	cctgcactac	3960
attattaaaa	tatcaattct	caatgtatat	ccacacaaag	actggtacgt	gaatgttcat	4020
agtaccttta	ttcacaaaac	cccaaagtag	agactatcca	aatatccatc	aacaagtga	4080
caaataaaca	aaatgtgcta	tatccatgca	atggaatacc	accctgcagt	acaaaggaag	4140
aagctacttg	gggatgaatc	ccaaagtc	gacgctaaat	gaaagagtca	gacatgaagg	4200
aggagataat	gtatgccata	cgaaattcta	gaaaatgaaa	gtaacttata	gttacagaaa	4260
gcaaatacagg	gcaggcatag	aggctcacac	ctgtaatccc	agcactttga	gaggccacgt	4320
gggaagattg	ctagaactca	ggagttcaag	accagcctgg	gcaacacagt	gaaactccat	4380
tctccacaaa	aatgggaaaa	aaagaaagca	aatcagtggt	tgtcctgtgg	ggagggggaag	4440
gactgcaaag	agggaagaag	ctctggtggg	gtgagggtgg	tgattcaggt	tctgtatcct	4500
gactgtggta	gcagtttggg	gtgtttacat	ccaaaaatat	tcgtagaatt	atgcatctta	4560
aatgggtgga	gtttactgta	tgtaaattat	acctcaatgt	aagaaaaaat	aatgtgtaag	4620

aaaagtttca attctcttgc cagcaaactg tattcaaatt cctgagccct ttacttcgca 4680  
 aattctctgc acttctgccc cgtaccatta ggtgacagca ctagctccac aaattggata 4740  
 aatgcatttc tggaaaagac tagggacaaa atccaggcat cacttgtgct ttcatatcaa 4800  
 ccacgctgta cagcttgtgt tgctgtctgc agctgcaatg gggactcttg atttctttaa 4860  
 ggaaacttgg gttaccagag tatttccaca aatgctattc aaattagtgc ttatgatatg 4920  
 caagacactg tgctaggagc cagaaaacaa agaggaggag aaatcagtca ttatgtggga 4980  
 acaacatagc aagatattta gatcattttg actagttaaa aaagcagcag agtacaaaat 5040  
 cacacatgca atcagtataa tccaaatcat gtaaataatgt gcctgtagaa agactagagg 5100  
 aataaacaca agaactctta cagtcattgt cattagacac taagtctaata tattattatt 5160  
 agacactatg atatttgaga tttaaaaaat ctttaatat tttaaattta gagctcttct 5220  
 atttttccat agtattcaag tttgacaatg atcaagtatt actctttctt tttttttttt 5280  
 tttttttttt ttgagatgg agttttggtc ttgttgccca tgctggagtg gaatggcatg 5340  
 aycatagctc actgcaacct ccacctcctg ggttcaagca aagctgtcgc ctcagcctcc 5400  
 cgggtagatg ggattacagg cgcccaccac cacactcggc taatgtttgt attttttagta 5460  
 gagatgggggt ttcacatgtt tggccaggct ggtctcaaac tcctgacctc agag 5514

<210> 10

<211> 6564

<212> DNA

<213> Homo sapiens

<400> 10

gggggcctgt aatcccagct actcaggagg ctgaggcagg aggatccgcg gagcctggca 60  
 gatctgcctg agcctgggag gttgaggcta cagtaagcca agatcatgcc agtatacttc 120  
 agcctgggag acaaagttag accgtaacaa aaaaaaaaaa atttaaaaaa agaaatttag 180

atcaagatcc aactgtaaaa agtggcctaa acaccacatt aaagagtttg gagttttattc 240  
 tgcaggcaga agagaaccat caggggggtct tcagcatggg aatggcatgg tgcacctggt 300  
 ttttgtgaga tcatggtggt gacagtgtgg ggaatgttat tttggaggga ctggaggcag 360  
 acagaccggt taaaaggcca gcacaacaga taaggaggaa gaagatgagg gcttggaccg 420  
 aagcagagaa gagcaaacag ggaaggtaca aattcaagaa atattggggg gtttgaatca 480  
 acacatttag atgattaatt aaatatgagg actgaggaat aagaaatgag tcaaggatgg 540  
 ttccaggctg ctaggctgct tacctgaggt ggcaaagtcg ggaggagtgg cagtttagga 600  
 cagggggcag ttgaggaata ttgttttgat ctttttgagt ttgaggtaca agttggacac 660  
 ttaggtaaag actggagggg aaatctgaat atacaattat gggactgagg aacaagttta 720  
 ttttattttt tgtttcgttt tcttgttgaa gaacaaattt aattgtaatc ccaagtcac 780  
 agcatctaga agacagtggc aggaggtgac tgtcttgtgg gtaagggttt ggggtccttg 840  
 atgagtatct ctcaattggc cttaaataata agcaggaaaa ggagtttatg atggattcca 900  
 ggctcagcag ggctcaggag ggctcaggca gccagcagag gaagtcagag catcttcttt 960  
 ggtttagccc aagtaatgac ttccttaaaa agctgaagga aaatccagag tgaccagatt 1020  
 ataaactgta ctcttgcat tctctccct cctctcacc acagcctctt gatgaaccgg 1080  
 aggaagtttc ttaccaatt caaaaatgtc cgctgggcta agggctcggc tgagacctac 1140  
 ctgtgctacg tagtgaagag gcgtgacagt gctacatcct tttactgga ctttggttat 1200  
 cttcgcaata aggtatcaat taaagtcagc ttgcaagca gtttaatggt caactgtgag 1260  
 tgcttttaga gccacctgct gatggtatta cttccatcct tttttggcat ttgtgtctct 1320  
 atcacattcc tcaaatcctt ttttttattt ctttttccat gtccatgcac ccatattaga 1380  
 catggcccaa aatatgtgat ttaattcctc cccagtaatg ctgggcaccc taataccact 1440  
 cttccttca gtgccaagaa caactgctcc caaactgttt accagctttc ctgagcatct 1500  
 gaatgcctt tgagattaat taagctaaaa gcatttttat atgggagaat attatcagct 1560  
 tgtccaagca aaaattttta atgtgaaaaa caaattgtgt ctttaagcatt tttgaaaatt 1620  
 aaggaagaag aatttgggaa aaaattaacg gtggttcaat tctgttttcc aaatgatttc 1680  
 tttccctcc tactcacatg ggctgtaggc cagtgaatac attcaacatg gtgatcccca 1740

0956880-092801  
 1099460-0899460

gaaaactcag agaagcctcg gctgatgatt aattaaattg atctttcggc tacccgagag 1800  
 aattacattt ccaagagact tcttcaccaa aatccagatg ggtttacata aacttctgcc 1860  
 catgggtatc tctctctcc taacacgtg tgacgtctgg gcttggtgga atctcaggga 1920  
 agcatccgtg ggggtggaagg tcatcgtctg gctcgttggt tgaiggttat attaccatgc 1980  
 aattttcttt gcttacattt gtattgaata catcccaatc tcttctctat tcggtgacat 2040  
 gacacattct atttcagaag gctttgattt tatcaagcac tticatttac ttctcatggc 2100  
 agtgcctatt acttctctta caatacccat ctgtctgctt taccaaaatc tatttcccct 2160  
 tttcagatcc tcccaaatgg tctcataaaa ctgtcctgcc tccacctagt ggtccaggta 2220  
 tatttccaca atgttacatc aacaggcaact tctagccatt ttccttctca aaagggtgcaa 2280  
 aaagcaactt cataaacaca aattaaatct tcggtgaggt agtgtgatgc tgcttctctc 2340  
 caactcagcg cacttctgtc tctcattcc aaaaaaccc atagccttcc ttcactctgc 2400  
 aggactagtg ctgccaaggg ttcagctcta cctactgggt tgctcttttg agcaagttgc 2460  
 ttagcctctc tgtaacacaa ggacaatagc tgcaagcatc cccaagatc attgcaggag 2520  
 acaatgacta aggctaccag agccgcaata aaagtcagt aatttttagcg tggctcctctc 2580  
 tgtctctcca gaacggctgc cacgtggaat tgctcttctc ccgtacatc tcggactggg 2640  
 acctagacc tggecgctgc taccgctca cctggttcac ctctggagc cctgctacg 2700  
 actgtgccc acatgtggcc gactttctgc gagggaaccc caacctcagt ctgaggatct 2760  
 tcaccgcgc cctctacttc tgtgaggacc gcaaggctga gcccaggagg ctgcggcggc 2820  
 tgcaccgcgc cggggtgcaa atagccatca tgaccttcaa aggtgcgaaa gggccttccg 2880  
 cgcaggcgca gtgcagcagc ccgcattcgg gattgcgatg cggaatgaat gagttagtgg 2940  
 ggaagctcga ggggaagaag tgggcgggga ttctggttca cctctggagc cgaaattaaa 3000  
 gattagaagc agagaaaaga gtgaatggct cagagacaag gccccgagga aatgagaaaa 3060  
 tggggccagg gttgcttctt tcccctcgat ttggaacctg aactgtcttc taccctcata 3120  
 tcccgcctt ttttctctt ttttttttt tgaagattat ttttactgct ggaatacttt 3180  
 tgtagaaaac cacgaaagaa ctttcaaagc ctgggaaggg ctgcatgaaa attcagttcg 3240  
 tctctccaga cagcttcggc gcatcctttt ggtaaggggc ttctctgctt tttaaatttt 3300

ctttctttct ctacagtctt ttttggagtt tcgtatatatt cttatatattt cttattgttc 3360  
aatcaactctc agttttcadc tgatgaaaac tttattttctc ctccacatca gctttttctt 3420  
ctgctgtttc accattcaga gccctctgct aaggttccct ttccctccct tttctttctt 3480  
ttgttgtttc acatctttta atttctgtct ctccccaggg ttgcgtttcc ttcttggtca 3540  
gaattctttt ctcccttttt tttttttttt tttttttttt taaacaaaca aacaaaaaac 3600  
ccaaaaaaac tctttcccaa ttacttttct tccaacatgt tacaaagcca tccactcagt 3660  
ttagaagact ctccggcccc accgaccccc aacctcgttt tgaagccatt cactcaattt 3720  
gcttctctct tctctacag cccctgtatg aggttgatga cttacgagac gcatttcgta 3780  
ctttgggact ttgatagcaa cttccaggaa tgtcacacac gatgaaatat ctctgtgaa 3840  
gacagtggat aaaaaacagt ccttcaagtc ttctctgttt ttattcttca actctcactt 3900  
tcttagagtt tacagaaaaa atattttatat acgactcttt aaaaagatct atgtcttgaa 3960  
aatagagaag gaacacaggt ctggccaggg acgtgctgca attggtgcag ttttgaatgc 4020  
aacattgtcc cctactggga ataacagaac tgcaggacct gggagcatcc taaagtgtca 4080  
acgtttttct atgactttta ggtaggatga gagcagaagg tagatcctaa aaagcatggt 4140  
gagaggatca aatgttttta tatcaacatc ctttattatt tgattcattt gagttaacag 4200  
tggtgttagt gatagatttt tctattcttt tcccttgacg ttactttca agtaacacaa 4260  
actcttccat caggccatga tctataggac ctctaatga gagtatctgg gtgattgtga 4320  
cccaaacca tctctccaaa gcattaatat ccaatcatgc gctgtatgtt ttaatcagca 4380  
gaagcatgtt tttatgtttg tacaaaagaa gattgttatg ggtggggatg gaggtataga 4440  
ccatgcatgg tcaccttcaa gtactttta taaaggatct taaaatgggc aggaggactg 4500  
tgaacaagac accctaataa tgggttgatg tctgaagtag caaatcttct ggaaacgcaa 4560  
actcttttaa ggaagtcctt aatttagaaa caccacaaa cttcacatat cataattagc 4620  
aaacaattgg aaggaagttg cttgaatgtt ggggagagga aaatctattg gctctcgtgg 4680  
gtctcttcat ctcagaaatg ccaatcaggt caaggtttgc tacattttgt atgtgtgtga 4740  
tgcttctccc aaaggtatat taactatata agagagttgt gacaaaacag aatgataaag 4800  
ctgcgaaccg tggcacacgc tcatagttct agctgcttgg gaggttgagg agggaggatg 4860



gcttgaacac aggtgttcaa ggccagcctg ggcaacataa caagatcctg tctctcaaaa 4920  
 aaaaaaaaaa aaaaaagaaa gagagagggc cgggcgtggt ggcacacgcc tgtaatccca 4980  
 gcactttggg aggcagagcc gggcggatca cctgtggtca ggagtttgag accagccttg 5040  
 ccaacatggc aaaaccccg tctgtactcaa aatgcaaaaa ttagccaggc gtggtagcag 5100  
 gcacctgtaa tcccagctac ttgggaggct gaggcaggag aatcgcttga acccaggagg 5160  
 tggaggttgc agtaagctga gatcgtgccg ttgcactcca gcctgggcga caagagcaag 5220  
 actctgtctc agaaaaaaaa aaaaaaaga gagagagaga gaaagagaac aatatttggg 5280  
 agagaaggat ggggaagcat tgcaaggaaa ttgtgcttta tccaacaaaa tgtaaggagc 5340  
 caataaggga tccctatttg tctcttttgg tgtctatttg tccctaacaa ctgtctttga 5400  
 cagtgagaaa aatattcaga ataaccatat cctgtgccg ttattaccta gcaacccttg 5460  
 caatgaagat gaggagatcc acaggaaaac ttgaatgcac aactgtctta ttttaatttt 5520  
 attgtacata agtttgtaaa agagttaaaa attgttactt catgtattca tttatatttt 5580  
 atattatttt gcgtctaatg attttttatt aacatgattt ccttttctga tatattgaaa 5640  
 tggagtctca aagcttcata aatttataac tttagaaatg attctaataa caacgtatgt 5700  
 aattgtaaca ttgcagtaat ggtgctacga agccatttct cttgattttt agtaaacttt 5760  
 tatgacagca aatttgcttc tggtcactt tcaatcagtt aaataaatga taaataattt 5820  
 tggaagctgt gaagataaaa taccaaataa aataatataa aagtattta tatgaagtta 5880  
 aaataaaaaa tcagtatgat ggaataaact tgagagtcca gaagttatcc catacatctg 5940  
 taatcaacta atttctcaca aggggtgtaag gaccattcaa tggagaaaaa atgatcttct 6000  
 caacaaatgg tgctgagcta attggatatt acatgcaaag gaatgaattt gagtctctac 6060  
 tacacaccat atataaaaat taattaaaaa ttcatcaaat acctaaatat tagagactaa 6120  
 tttataaacc gtagagagaa acataggtta aaatgtttat ggcttttagat taggcaacag 6180  
 cttcttaatt atgacatcaa aagcacaagc aaccaaagac aaaaataaat cagttggact 6240  
 tcatcgaaat taaaaatctt tgtgcatcaa aggacactta gtaagaaagt gaaaagacaa 6300  
 cccacagaag tgggagaaaa cacttgcaaa tcatatatct gataagggtt gtgatattat 6360  
 gatatatata taggtttttg tccatagtct ctggcttata aacccctca cccttgttac 6420

09966880-092804

agtcatttgt tataagggttg gatggtttag gccacagaag caaaactctc tctctcacct 6480  
 tctccagccc tctgtctctt ggcacctcat tcttccctga ggccacatag aaactagaat 6540  
 ctctcttcca caaggcggtc aaag 6564

<210> 11

<211> 87

<212> DNA

<213> Homo sapiens

<400> 11

agagaaccat cattaattga agtgagattt ttctggcctg agacttgag ggaggcaaga 60  
 agacactctg gacaccacta tggacag 87

<210> 12

<211> 148

<212> DNA

<213> Homo sapiens

<400> 12

cctcttgatg aaccggagga agtttcttta ccaattcaaa aatgtccgct gggctaagg 60  
 tcggcgtgag acctacctgt gctacgtagt gaagaggcgt gacagtgcta catccttttc 120  
 actggacttt gggtatcttc gcaataag 148

<210> 13

<211> 271

<212> DNA

<213> Homo sapiens

<400> 13

aacggctgcc acgtggaatt gctcttctc cgctacatct cggactggga cctagaccct 60  
ggccgctgct accgcgtcac ctggttcacc tectggagcc cctgctacga ctgtgcccga 120  
catgtggccg actttctgcg agggaacccc aacctcagtc tgaggatctt caccgcgcgc 180  
ctctacttct gtgaggaccg caaggctgag cccgaggggc tgcggcggct gcaccgcgcc 240  
ggggtgcaaa tagccatcat gaccttcaaa g 271

<210> 14

<211> 116

<212> DNA

<213> Homo sapiens

<400> 14

attattttta ctgctggaat actttttagt aaaaccacga aagaactttc aaagcctggg 60  
aagggtgca tgaaaattca gttegtctct ccagacagct tcggcgcata cttttg 116

<210> 15

<211> 2172

<212> DNA

00955880 092260

<400> 15

ccctgtatg aggttgatga cttacagac gcatttcgta ctttgggact ttgatagcaa 60  
cttccaggaa tgtcacacac gatgaaatat ctctgctgaa gacagtggat aaaaaacagt 120  
ccttcaagtc ttctctgttt ttattcttca actctcactt tcttagagtt tacagaaaaa 180  
atatttatat acgactcttt aaaaagatct atgtcttgaa aatagagaag gaacacaggt 240  
ctggccaggg acgtgctgca attggtgcag ttttgaatgc aacattgtcc cctactggga 300  
ataacagaac tgcaggacct gggagcatcc taaagtgtca acgtttttct atgactttta 360  
ggtaggatga gagcagaagg tagatcctaa aaagcatggt gagaggatca aatgttttta 420  
tatcaacatc ctttattatt tgattcattt gagttaacag tgggtgtagt gatagatttt 480  
tctattcttt tcccttgacg tttactttca agtaacacaa actcttccat caggccatga 540  
tctataggac ctctaatga gagtatctgg gtgattgtga ccccaaacca tctctccaaa 600  
gcattaatat ccaatcatgc gctgtatgtt ttaatcagca gaagcatgtt tttatgtttg 660  
tacaaaagaa gattgttatg ggtggggatg gaggtataga ccatgcatgg tcaccttcaa 720  
gctactttaa taaaggatct taaaatgggc aggaggactg tgaacaagac accctaataa 780  
tgggttgatg tctgaagtag caaatcttct ggaaacgcaa actcttttaa ggaagtcctt 840  
aatttagaaa caccacaaa cttcacatat cataattagc aaacaattgg aaggaagttg 900  
cttgaatgtt ggggagagga aaatctattg gctctcgtgg gtctcttcat ctcagaaatg 960  
ccaatcaggt caaggtttgc tacattttgt atgtgtgtga tgcttctccc aaaggtatat 1020  
taactatata agagagttgt gacaaaacag aatgataaag ctgcgaaccg tggcacacgc 1080  
tcatagttct agctgcttgg gaggttgagg agggaggatg gcttgaacac aggtgttcaa 1140  
ggccagcctg ggcaacataa caagatcctg tctctcaaaa aaaaaaaaaa aaaaaagaaa 1200  
gagagagggc cgggcgtggt ggctcacgcc tgtaatccca gcactttggg aggccgagcc 1260  
gggcggatca cctgttggtca ggagtttgag accagcctgg ccaacatggc aaaaccccg 1320  
ctgtactcaa aatgcaaaaa ttagccaggc gtggttagcag gcacctgtaa tcccagctac 1380

ttgggaggct gaggcaggag aatcgcttga acccaggagg tggaggttgc agtaagctga 1440  
 gatcgtgccg ttgcactcca gcctgggcga caagagcaag actctgtctc agaaaaaaaa 1500  
 aaaaaaaga gagagagaga gaaagagaac aatatttggg agagaaggat ggggaagcat 1560  
 tgcaaggaaa ttgtgcttta tccaacaaaa tgtaaggagc caataaggga tccctatttg 1620  
 tctcttttgg tgtctatttg tccctaacaa ctgtctttga cagtgagaaa aatattcaga 1680  
 ataaccatat cctgtgccg ttattaccta gcaacccttg caatgaagat gagcagatcc 1740  
 acaggaaaac ttgaatgcac aactgtctta ttttaattctt attgtacata agtttgtaaa 1800  
 agagttaaaa attgttactt catgtattca tttatatttt atattatttt gcgtctaata 1860  
 attttttatt aacatgattt ctttttctga tatattgaaa tggagtctca aagcttcata 1920  
 aatttataac tttagaaatg attctaataa caacgtatgt aattgtaaca ttgcagtaat 1980  
 ggtgctacga agccatttct cttgattttt agtaaaacttt tatgacagca aatttgcttc 2040  
 tggtcactt tcaatcagtt aaataaatga taaataattt tggaagctgt gaagataaaa 2100  
 taccaaataa aataatataa aagtgattta tatgaagtta aaataaaaaa tcagtatgat 2160  
 ggaataaact tg 2172

<210> 16

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
 synthesized primer sequence, 170

<400> 16

gagaccgata tggacagcct tctga

25

<210> 17

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
syntjesized primer sequence, 181

<400> 17

tcacgtgtga cattccagga ggttgct

27

<210> 18

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, 22

<400> 18

TOP SECRET

gtagtgaaga ggcgtgacag tgctacatcc

30

<210> 19

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, 25

<400> 19

gttcctcgc agaaagtcgg ccacatg

27

<210> 20

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p3

<400> 20

T08260-092801-0946880

gagtttgagg tacaagttgg acac

24

<210> 21

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p9

<400> 21

tatctcctct ctctaacac gct

23

<210> 22

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p10

<400> 22

09966830-09966830



acaagctgat aatattctcc cat

23

<210> 23

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p12

<400> 23

tcttcggtga ggtagtgtga tg

22

<210> 24

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p14

<400> 24

T08360-0889660

agcctcttga tgaaccggag gaagtttctt

30

<210> 25

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p16

<400> 25

ttattgcgaa gataacaaaa gtccagtg

28

<210> 26

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p17

<400> 26

09966880.09966880

tagaccctgg ccgctgctac c

21

<210> 27

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p19

<400> 27

cgcatcgcaa tcccgaatgc gg

22

<210> 28

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p26

<400> 28

T096680-096680

caaaaggatg cgccgaagct gtctggag

28

&lt;210&gt; 29

&lt;211&gt; 23

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p29

&lt;400&gt; 29

gttgaagaa agtaaattgg gaa

23

&lt;210&gt; 30

&lt;211&gt; 21

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p36

&lt;400&gt; 30

T09250-09999650

gatactctca ttaggaggtc c

21

<210> 31

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p48

<400> 31

cattaattga agtgagattt ttctgg

26

<210> 32

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p59

<400> 32

0996660-0996660

agcatttggtg gaaataactct gg

22

<210> 33

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p85

<400> 33

aactttattt ctctccaca tcag

24

<210> 34

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
synthesized primer sequence, p86

<400> 34

T03250-0889660

gtgaatggct cagagacaag g

21

<210> 35

<211> 11204

<212> DNA

<213> Homo sapiens

<400> 35

aggttcagag agactgtggg aatatggggg aattagaggc tatctgaggc tcttcaacac 60  
aataacccaa gaagctatctt aaatgctctt taaggtatctt acataaatat tactattctc 120  
attgtgcttt tattttgtgt tatcatgatt ataattgaag tgtctactgt tactgcctcc 180  
tgatctttgc tagctatgga gcatggactg ggcttttaga gcagcagccc caaaggaacc 240  
taaacattaa agcagagctg ccctcaatgg ttaacctgt gtgactctgc ctatgacagc 300  
cccaccacc catcttcact ggatccaaat caggagcaag gccgttgggg tacctggtgg 360  
gggtgatgct gtcaggggag gagcccaaaa gggcaagctc aaatttgaat gtgaagggcc 420  
aatgcactgt cagactgaga cagagaacca tcattaattg aagttagatt tttctggcct 480  
gagacttgca gggaggcaag aagacactct ggacaccact atggacaggt aaagaggcag 540  
tcttctcgtg ggtgattgca ctggccttcc tctcagagca aatctgagta atgagactgg 600  
tagctatccc tttctctcat gtaactgtct gactgataag atcagcttga tcaatatgca 660  
tatatatctt ttgatctgtc tccttttctt ctattcagat cttatacgt gtcagcccaa 720  
ttctttctgt ttcagacttc tcttgatttc cctcttttct atgtggcaaa agaagtagtg 780  
cgtacaatgt actgattcgt cctgagattt gtacatgggt tgaaactaat ttatggtaat 840  
aatattaaca tagcaaactt ttagagactc aaatcatgaa aaggtaatag cagtactgta 900  
ctaaaaacgg tagtgctaatt tttcgtaata attttgtaa tattcaacag taaaacaact 960  
tgaagacaca ctttcctagg gaggcgttac tgaaataatt tagctatagt aagaaaattt 1020

096680.0899550

gtaatthtttag aaatgccaag cattctaaat taattgcttg aaagtcacta tgattgtgtc 1080  
 cattataagg agacaaattc attcaagcaa gttatthtaat gttaaaggcc caattgttag 1140  
 gcagttaatg gcactthttac tattaactaa tctthtcatt tgthtcagacg tagcttaact 1200  
 tacctcttag gtgtgaattt ggthtaaggth ctcataatgt cthtatgtgc agththttgat 1260  
 aggtthattgt catagaactt attctattcc tacattthtg attactatgg atgtatgaga 1320  
 ataacaccta atccttatac thtacctcaa thtaactcct ttataaagaa cttacattac 1380  
 agaataaaga thththtaaaa atataththtt thgttagagac aggtthcttag cccagccgag 1440  
 gctggtctct aagthctggc ccaagcgatc cthctgctg ggcctcctaa agthgctggaa 1500  
 ttatagacat gagccatcac atccaatata cagaataaag athththtaag gaggattthaa 1560  
 ththcttcag aaathththct thgagthcaga caatgtcaaa ththctcctca gththactg 1620  
 agaththtgaa aacaagthctg agctataggt cththgtgaag gthccattgg aaatactthgt 1680  
 tcaaagthaaa atggaaagca aagthaaaat cagcagthga aathcagaga aagacagaaa 1740  
 aggagaaaaag atgaaattca acaggacaga agggaaatat attatcatta aggaggacag 1800  
 tatctgtaga gthcattagth gatggcaaaa thactthgtc aggattathth thaacccgct 1860  
 thththctggt thgcacggct ggggatgcag ctaggththct gcctcaggga gcacagctgt 1920  
 ccagagcagc ththcagctg caagcctgaa acactcctc gthaaagthc thctactca 1980  
 ggacagaaat gacgagaaca gggagctgga aacaggcccc taaccagaga agggaagthaa 2040  
 thgatcaaca aagthtaacta gcagthcagg atcacgcaat thattthact thgactggta 2100  
 acatgtgaca gaaacagthgt aggtthattg thththctag thagthtagga cccaaaaatc 2160  
 cacccaaagth cthththctc thgccatcc thctthctc thctthcagg acactththc 2220  
 thctthtgat thaggtctc thctctctca cacacacaca cacacacaca cacacacaca 2280  
 cacacacaca cacaacaca cccccgcca accaagthgc atgtaaaaag atgtagatthc 2340  
 ctctgcctth cthctctaca cagcccagga gggthagth atataagagg gaththattg 2400  
 thagagatga thctthaatc ththtaact ggcctcaaa gagagaathth cththththct 2460  
 thactthatta agcacctatt atgtgthgag cthtatatata caaaggthta thtatgthc 2520  
 atatagthaat agthaatgth gthgthtacta thgthattac cataaaaatt attatcctth 2580



taaaataaag ctaattatta ttggatcttt tttagtattc attttatgtt ttttatgttt 2640  
 ttgatttttt aaaagacaat ctacacctgt taccaggct ggagtgagc ggtgcaatca 2700  
 tagctttctg cagtcttgaa ctctgggct caagcaatcc tctgccttg gcctcccaaa 2760  
 gtgttgggat acagtcata gccactgcat ctggcctagg atccatttag attaaaaat 2820  
 gcattttaaa ttttaaaata atatggctaa tttttacctt atgtaatgtg tatactggta 2880  
 ataatctag tttgtgcct aaagtttaaa gtgctttcca ataagcttca tgtacgtgag 2940  
 gggagacatt taaagtgaag cagacagcca ggtgtggtgg ctacgcctg taatcccagc 3000  
 actctgggag gctgaggtgg gtggatcgt tgagccctgg agttcaagac cagcctgagc 3060  
 aacatggcaa aacctgttt ctataacaaa aattagccgg gcatgggtgg atgtgcctgt 3120  
 ggtcccagct actagggggc tgaggcagga gaatctttgg agcccaggag gtcaaggctg 3180  
 cactgagcag tgcttgccc actgcactcc agcctgggtg acaggaccag acctgcctc 3240  
 aaaaaataa gaagaaaaat taaaaataa tggaacaac tacaagagc tgtgtccta 3300  
 gatgagctac ttagttaggc tgatattttg gtatttaact tttaaagtca ggtctgtca 3360  
 cctgcactac attattaaaa tatcaattct caatgtatat ccacacaaag actggtacgt 3420  
 gaatgttcat agtaccttta ttacacaaac ccaaagtag agactatcca aatatccatc 3480  
 aacaagtga caaataaaca aaatgtgcta tatccatgca atggaatacc acctgcagt 3540  
 acaaaggaag aagctacttg gggatgaatc ccaaagtcac gacgctaat gaaagagtca 3600  
 gacatgaagg aggagataat gtatgccata cgaaattcta gaaaatgaaa gtaacttata 3660  
 gttacagaaa gcaaatcagg gcaggcatag aggctcacac ctgtaatccc agcaatttga 3720  
 gaggccagct gggaagattg ctagaactca ggagttcaag accagcctgg gcaacacagt 3780  
 gaaactccat tctccacaaa aatgggaaaa aaagaaagca aatcagtggt tgtcctgtgg 3840  
 ggaggggaag gactgcaaag agggagaag ctctgggtgg gtgaggtgg tgattcaggt 3900  
 tctgtatcct gactgtggtg gcagtttggg gtgtttacat caaaaaatat tcgtagaatt 3960  
 atgcatctta aatgggtgga gtttactgta tgtaaattat acctcaatgt aagaaaaaat 4020  
 aatgtgtaag aaaagtttca attctctgc cagcaaacgt tattcaaatt cctgagccct 4080  
 ttacttcgca aattctctgc acttctgccc cgtaccatta ggtgacagca ctagctccac 4140

09966600-099601

aaattggata aatgcatttc tggaaaagac tagggacaaa atccaggcat cacttgtgct 4200  
 ttcatatcaa ccacgtgta cagcttgtgt tgctgtctgc agctgcaatg gggactcttg 4260  
 atttctttaa ggaaacttgg gttaccagag tatttccaca aatgctattc aaattagtgc 4320  
 ttatgatatg caagacactg tgctaggagc cagaaaacaa agaggaggag aaatcagtca 4380  
 ttatgtggga acaacatagc aagatattta gatcattttg actagttaaa aaagcagcag 4440  
 agtacaaaat cacacatgca atcagtataa tccaaatcat gtaaataatgt gcctgtagaa 4500  
 agactagagg aataaacaca agaattctta cagtcatgtt cattagacac taagtctaata 4560  
 tattattatt agacactatg atatttgaga tttaaaaaat ctttaatat tttaaattta 4620  
 gagctcttct atttttccat agtattcaag tttgacaatg atcaagtatt actctttctt 4680  
 tttttttttt tttttttttt tttgagatgg agtttttggtc ttgttgccca tgctggagtg 4740  
 gaatggcatg accatagctc actgcaacct ccacctcctg ggttcaagca aagctgtcgc 4800  
 ctgagcctcc cgggtagatg ggattacagg cgcccaccac cacactcggc taatgtttgt 4860  
 atttttagta gagatggggt ttcaccatgt tggccaggct ggtctcaaac tctgacctc 4920  
 agaggatcca cctgcctcag cctcccaaag tgctgggatt acagatgtag gccactgcgc 4980  
 ccggccaagt attgctctta tacattaaaa aacagggtgtg agccactgcg ccagccagg 5040  
 tattgtcttt atacattaaa aaataggccg gtgcagtggc tcacgcctgt aatcccagca 5100  
 ctttgggaag ccaaggcggg cagaacaccc gaggtcagga gtccaaggcc agcctggcca 5160  
 agatggtgaa acccgtctc tattaaaaat acaaacatta cctgggcatg atggtgggcg 5220  
 cctgtaatcc cagctactca ggaggtgag gcaggaggat ccgcggagcc tggcagatct 5280  
 gcctgagcct gggaggttga ggctacagta agccaagatc atgccagtat acttcagcct 5340  
 gggcgacaaa gtgagaccgt aacaaaaaaaa aaaaaattta aaaaaagaaa ttagatcaa 5400  
 gatccaactg taaaaagtgg cctaaacacc acattaaaga gtttggagtt tattctgcag 5460  
 gcagaagaga accatcaggg ggtcttcagc atgggaatgg catggtgcac ctggtttttg 5520  
 tgagatcatg gtggtgacag tgtggggaat gttatttttg agggactgga ggcagacaga 5580  
 ccggttaaaa ggccagcaca acagataagg aggaagaaga tgagggcttg gaccgaagca 5640  
 gagaagagca aacagggaag gtacaaattc aagaaatatt ggggggtttg aatcaacaca 5700

tttagatgat taattaaata tgaggactga ggaataagaa atgagtcaag gatggttcca 5760  
 ggctgctagg ctgcttacct gaggtggcaa agtcgggagg agtggcagtt taggacaggg 5820  
 ggcagttgag gaatatgtt ttgatcattt tgagtttgag gtacaagttg gacacttagg 5880  
 taaagactgg aggggaaatc tgaatataca attatgggac tgaggaacaa gtttatatta 5940  
 ttttttgttt cgttttcttg ttgaagaaca aatttaattg taatcccaag tcatcagcat 6000  
 ctagaagaca gtggcaggag gtgactgtct tgtgggtaag gtttgggggt ctttgatgag 6060  
 tatctctcaa ttggccttaa atataagcag gaaaaggagt ttatgatgga ttccaggctc 6120  
 agcagggctc aggagggctc aggcagccag cagaggaagt cagagcatct tctttggttt 6180  
 agcccaagta atgacttcct taaaaagctg aaggaaaatc cagagtgacc agattataaa 6240  
 ctgtactctt gcattttctc tccctectct caccacagc ctcttgatga accggaggaa 6300  
 gtttctttac caattcaaaa atgtccgctg ggctaagggt cggcgtgaga cctacctgtg 6360  
 ctacgtagtg aagaggcgtg acagtgtctac atccttttca ctggactttg gttatcttcg 6420  
 caataaggta tcaattaaag tcagctttgc aagcagttta atggccaact gtgagtgcct 6480  
 ttagagccac ctgctgatgg tattacttcc atcctttttt ggcatttgtg tctctatcac 6540  
 attcctcaaa tccttttttt tatttctttt tccatgtcca tgcaccata ttagacatgg 6600  
 cccaaaatat gtgatttaat tectcccag taatgctggg caccctaata ccactccttc 6660  
 cttcagtgcc aagaacaact gtcccaaac tgtttaccag ctttctcag catctgaatt 6720  
 gccttgaga ttaattaagc taaaagcatt tttatatggg agaataattat cagcttgtcc 6780  
 aagcaaaaat tttaatgtg aaaaacaaat tgtgtcttaa gcatttttga aaattaagga 6840  
 agaagaattt gggaaaaaat taacggtggt tcaattctgt tttccaaatg atttcttttc 6900  
 cctcctactc acatgggtcg taggccagtg aatacatcca acatgggtgat cccagaaaa 6960  
 ctgagagaag cctcggtga tgattaatta aattgatctt tcggctaccc gagagaatta 7020  
 cattccaag agacttcttc accaaaatcc agatgggttt acataaactt ctgcccattg 7080  
 gtatctctc tctcctaaca cgtgtgacg tctgggcttg gtggaatctc aggaagcat 7140  
 ccgtggggtg gaaggctatc gctggctcg ttgttgatg gttatattac catgcaattt 7200  
 tctttgccta catttgtatt gaatacatcc caatctcctt cctattcggt gacatgacac 7260

0996600-0996600

attctatttc agaaggtttt gattttatca agcactttca tttacttttc atggcagtgc 7320  
 ctattacttc tcttacaata cccatctgtc tgctttacca aaatctattt ccccttttca 7380  
 gatcctccca aatggtcctc ataaactgtc ctgcctccac ctagtgggcc aggtatattt 7440  
 ccacaatgtt acatcaacag gcactttctag ccatttttct tctcaaaagg tgcaaaaagc 7500  
 aacttcataa acacaaatta aatcttcggt gaggtagtgt gatgctgctt cctcccaact 7560  
 cagcgcactt cgttttctc attccacaaa aaccatagc cttctttcac tctgcaggac 7620  
 tagtctgcc aagggttcag ctctacctac tgggtgtctc ttttgagcaa gttgcttagc 7680  
 ctctctgtaa cacaaggaca atagctgcaa gcaccccaa agatcattgc aggagacaat 7740  
 gactaaggct accagagccg caataaaagt cagtgaattt tagcgtgggc ctctctgtct 7800  
 ctccagaacg gctgccacgt ggaattgtc ttcctccgct acatctcgga ctgggaccta 7860  
 gaccctggcc gctgctaccg cgtcacctgg ttcacctct ggagccctg ctacgactgt 7920  
 gcccgacatg tggccgactt tctgcgaggg aacccaacc tcagtctgag gatcttcacc 7980  
 gcgcgcctct acttctgtga ggaccgcaag gctgagcccg aggggctgcg gcggctgcac 8040  
 cgcgcggggg tgcaaatagc catcatgacc ttcaaagggt cgaaagggcc ttccgcgcag 8100  
 gcgcagtga gcagcccgca ttccggattg cgatgcggaa tgaatgagtt agtggggaag 8160  
 ctcgagggga agaagtgggc ggggattctg gttcacctct ggagccgaaa ttaaagatta 8220  
 gaagcagaga aaagagtga tggtcagag acaaggcccc gaggaatga gaaaatgggg 8280  
 ccagggttgc ttctttcccc tcgatttga acctgaactg tttcttacc ccatatcccc 8340  
 gccttttttt cctttttttt ttttttgaag attattttta ctgctggaat actttttag 8400  
 aaaaccacga aagaactttc aaagcctggg aagggtgca tgaaaattca gttcgtctct 8460  
 ccagacagct tcggcgcac ctttttgtaa ggggttctt cgctttttta attttctttc 8520  
 tttctctaca gtcttttttg gaggttcgt tatttcttat attttcttat tgttcaatca 8580  
 ctctcagttt tcctctgatg aaaactttat ttctctcca catcagcttt ttcttctgct 8640  
 gtttcacat tcagagccct ctgctaaggt tcttttccc tcccttttct ttcttttgtt 8700  
 gtttcacatc tttaaatttc tgtctctccc cagggttgcg tttcttctt ggtcagaatt 8760  
 cttttctct tttttttttt tttttttttt ttttttaaac aaacaaacaa aaaacccaaa 8820

09565800-09565801  
 09565802-09565803  
 09565804-09565805  
 09565806-09565807  
 09565808-09565809  
 09565810-09565811  
 09565812-09565813  
 09565814-09565815  
 09565816-09565817  
 09565818-09565819  
 09565820-09565821  
 09565822-09565823  
 09565824-09565825  
 09565826-09565827  
 09565828-09565829  
 09565830-09565831  
 09565832-09565833  
 09565834-09565835  
 09565836-09565837  
 09565838-09565839  
 09565840-09565841  
 09565842-09565843  
 09565844-09565845  
 09565846-09565847  
 09565848-09565849  
 09565850-09565851  
 09565852-09565853  
 09565854-09565855  
 09565856-09565857  
 09565858-09565859  
 09565860-09565861  
 09565862-09565863  
 09565864-09565865  
 09565866-09565867  
 09565868-09565869  
 09565870-09565871  
 09565872-09565873  
 09565874-09565875  
 09565876-09565877  
 09565878-09565879  
 09565880-09565881  
 09565882-09565883  
 09565884-09565885  
 09565886-09565887  
 09565888-09565889  
 09565890-09565891  
 09565892-09565893  
 09565894-09565895  
 09565896-09565897  
 09565898-09565899  
 09565900-09565901  
 09565902-09565903  
 09565904-09565905  
 09565906-09565907  
 09565908-09565909  
 09565910-09565911  
 09565912-09565913  
 09565914-09565915  
 09565916-09565917  
 09565918-09565919  
 09565920-09565921  
 09565922-09565923  
 09565924-09565925  
 09565926-09565927  
 09565928-09565929  
 09565930-09565931  
 09565932-09565933  
 09565934-09565935  
 09565936-09565937  
 09565938-09565939  
 09565940-09565941  
 09565942-09565943  
 09565944-09565945  
 09565946-09565947  
 09565948-09565949  
 09565950-09565951  
 09565952-09565953  
 09565954-09565955  
 09565956-09565957  
 09565958-09565959  
 09565960-09565961  
 09565962-09565963  
 09565964-09565965  
 09565966-09565967  
 09565968-09565969  
 09565970-09565971  
 09565972-09565973  
 09565974-09565975  
 09565976-09565977  
 09565978-09565979  
 09565980-09565981  
 09565982-09565983  
 09565984-09565985  
 09565986-09565987  
 09565988-09565989  
 09565990-09565991  
 09565992-09565993  
 09565994-09565995  
 09565996-09565997  
 09565998-09565999

aaaactcttt cccaatttac tttcttccaa catgttacaa agccatccac tcagtttaga 8880  
 agactctccg gccccaccga cccccaacct cgttttgaag ccattcactc aatttgcttc 8940  
 tctctttctc tacagcccct gtatgaggtt gatgacttac gagacgcatt tcgtactttg 9000  
 ggactttgat agcaacttcc aggaatgtca cacacgatga aatatctctg ctgaagacag 9060  
 tggataaaaa acagtccttc aagtcttctc tgtttttatt ctcaactct cactttctta 9120  
 gagtttacag aaaaaatatt tatatacgac tctttaaaaa gatctatgtc ttgaaaatag 9180  
 agaaggaaca caggtctggc caggacgtg ctgcaattgg tgcagttttg aatgcaacat 9240  
 tgtcccctac tgggaataac agaactgcag gacctgggag catcctaaag tgtcaacgtt 9300  
 tttctatgac ttttaggtag gatgagagca gaaggtagat cctaaaaagc atggtgagag 9360  
 gatcaaatgt ttttatatca acatccttta ttatttgatt catttgagtt aacagtgggtg 9420  
 ttagtgatag atttttctat tcttttcct tgacgtttac tttcaagtaa cacaaactct 9480  
 tccatcaggc catgatctat aggacctcct aatgagagta tctgggtgat tgtgacccca 9540  
 aaccatctct ccaaagcatt aatatccaat catgcgctgt atgttttaac cagcagaagc 9600  
 atgtttttat gtttgtacaa aagaagattg ttatgggtgg ggatggaggt atagaccatg 9660  
 catggtcacc ttcaagctac ttttaataaag gatcttaaaa tgggcaggag gactgtgaac 9720  
 aagacacctt aataatgggt tgatgtctga agtagcaaat cttctggaaa cgcaaactct 9780  
 ttttaaggaag tcctaattt agaaacaccc acaaacttca catatcataa ttagcaaaca 9840  
 attggaagga agttgcttga atgttgggga gaggaaaatc tattggctct cgtgggtctc 9900  
 ttcattctcag aaatgccaat caggtcaagg tttgctacat tttgtatgtg tgtgatgctt 9960  
 ctcccaaagg tatattaact atataagaga gttgtgacaa aacagaatga taaagctgcg 10020  
 aaccgtggca cacgtcata gttagctg cttgggaggt tgaggaggga ggatggcttg 10080  
 aacacaggtg ttcaaggcca gcctgggcaa cataacaaga tcctgtctct caaaaaaaaa 10140  
 aaaaaaaaaa agaaagagag agggccgggc gtggtggctc acgcctgtaa tcccagcact 10200  
 ttgggaggcc gagccgggcg gatcacctgt ggtcaggagt ttgagaccag cctggccaac 10260  
 atggcaaac cccgtctgta ctcaaatgc aaaaattagc caggcgtggt agcaggcacc 10320  
 tgtaatccca gctacttggg aggctgaggc aggagaatcg cttgaacca ggaggtggag 10380

09966666-09966666

gttgcagtaa gctgagatcg tgccgttgca ctccagcctg ggcgacaaga gcaagactct 10440  
 gtctcagaaa aaaaaaaaaa aaagagagag agagagaaaag agaacaatat ttgggagaga 10500  
 aggatgggga agcattgcaa ggaaattgtg ctttatccaa caaaatgtaa ggagccaata 10560  
 agggatccct atttgtctct tttggtgtct atttgtccct aacaactgtc tttgacagt 10620  
 agaaaaatat tcagaataac catatccctg tgccgttatt acctagcaac ccttgcaatg 10680  
 aagatgagca gatccacagg aaaacttgaa tgcacaactg tcttatttta atcttattgt 10740  
 acataagttt gtaaaagagt taaaaattgt tacttcatgt attcatttat attttatatt 10800  
 attttgcgtc taatgatttt ttattaacat gatttccttt tctgatatat tgaaatggag 10860  
 tctcaaagct tcataaattt ataactttag aaatgattct aataacaacg tatgtaattg 10920  
 taacattgca gtaatggtgc tacgaagcca tttctcttga tttttagtaa acttttatga 10980  
 cagcaaattt gcttctggct cactttcaat cagttaaata aatgataaat aattttggaa 11040  
 gctgtgaaga taaaatacca aataaaataa tataaaagtg atttatatga agttaaaata 11100  
 aaaaatcagt atgatggaat aaacttgaga gtccagaagt tatcccatat atctgtaatc 11160  
 aactaatttc tcacaagggt gtaaggacca ttcaatggag aaaa 11204

09966600-099601